

## ABSTRACT

The present invention relates to a method of processing a semiconductor device and comprising the following steps of generating plasma in a processing chamber to form a thin film on a semiconductor device or to process a thin film formed on a semiconductor device, scanning a laser beam which intensity is modulated at a desired frequency inside the processing chamber where the semiconductor device is being processed by the plasma through a window, receiving by a sensor through the window a back scattered light being scattered from fine particles suspended in said processing chamber by scanning the laser, detecting said desired frequency component from a signal outputted from the sensor, obtaining information from the detected desired frequency component relating to quantity, size and distribution of fine particles illuminated by said laser beam inside the processing chamber, and outputting said obtained information relating to quantity, size and distribution of the fine particles.